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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/402,049	01/10/2000	NIDHAM BEN RACHED	920569-905293	5474

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Barnes & Thornburg  
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EXAMINER

ABELSON, RONALD B

ART UNIT PAPER NUMBER

2666

DATE MAILED: 11/03/2003

13

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/402,049

Applicant(s)

BEN RACHED, NIDHAM

Examiner

Ronald Abelson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11 September 2003.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-5 and 9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 3-5 and 9 is/are allowed.
- 6) ☐ Claim(s) 1 and 2 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 January 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

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***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-2 are rejected under 35 U.S.C. 102(b) as being anticipated by Bryan (US 5,561,468).

Regarding claim 1, Bryan teaches a method and apparatus for transmitting packets (fig. 2) of a predetermined length (col. 3 lines 39 - 42), the apparatus comprising formatting suitable for formatting a first type of packet (fig. 1, packet containing a main header) on the basis of a first training sequence (fig. 1 box 11) and of a first information sequence (fig. 1, data portion attached to main header), wherein in order to send a second information sequence longer than the first information sequence (fig. 1, data portion attached to additional header), the formatting means are also designed to format a second type of packet on the basis of a second training sequence that corresponds to a subsequence of the first training sequence (col. 6 lines 4 - 8) shorter than the first training sequence (fig. 1 box 12), and a second information sequence (fig.

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1, data portion attached to additional header), the formatting means formatting a packet whose type is identified by an identification signal. In the case of the short training sequence, the packet is identified by the lack of an "alteration sequence" (fig. 1 box 3) that is found for packets containing a "long" training sequence (fig. 1 box 11).

Bryan teaches the packets lengths for both packet types may be equal (col. 3 lines 39 - 42). Therefore, in this instance, the information sequence for the second packet type is longer than for the first packet type since the second packet type does not contain an alteration sequence and the second packet type's training sequence is shorter.

Regarding claim 2, a single encoding means to produce first and second information sequences from first and second messages (fig. 2 box 20).

#### ***Allowable Subject Matter***

3. Claims 3-5 and 9 are allowed.

Regarding claim 3, although Bryan teaches two training sequences of different lengths, one being a subsequence of the

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other nothing in the prior art of the record teaches or fairly suggests a single demodulator means for both sequences.

Regarding claim 9, although Bryan teaches two training sequences of different lengths, one being a subsequence of the other, nothing in the prior art of the record teaches or fairly suggests the training sequences are orthogonal.

#### ***Response to Arguments***

4. Applicant's arguments filed 9/11/2003 have been fully considered but they are not persuasive.

The examiner disagrees with the applicant's contention "Bryan only teaches formatting two types of training sequences, both using CAZAC sequences, and one being half the length of the other. Bryan fails to explicitly teach that one type of training sequence is a subsequence of the other type" (pg. 3 lines 5-8, pg. 4 last paragraph, pg. 5 2<sup>nd</sup> paragraph). Mueller (US 5,450,456), col. 4 lines 29-31, 44-46, col. 5 lines 23-38, clearly shows CAZAC sequences having lengths of 4, 8, and 16. As seen in the CAZAC sequence  $C_{0,j}$ , the sequence is a concatenation of four CAZAC sequences of length four. Given that each element is one of  $(1, -1, j, -j)$ , it is evident for two CAZAC sequences of

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different lengths, the shorter CAZAC sequence is a subsequence of the longer.

The examiner disagrees with the applicant's contention that Bryan does not teach formatting a second type of packet in order to send a second information sequence longer than the first information sequence (pg. 3 last paragraph). As stated in the prior office action, Bryan teaches two types of packets illustrated in figure 1. The first packet has a Main Header, which includes a long training sequence, and a data portion. The second type of packet has an Additional Header, which includes a short training sequence, and a data portion. In addition, as stated in the prior office action Bryan teaches the packets lengths for both packet types may be equal (col. 3 lines 39 - 42). Therefore, in this instance, the information sequence for the second packet type is longer than for the first packet type since the second packet type does not contain an alteration sequence and the second packet type's training sequence is shorter.

Applicant's arguments, see pg. 5 last paragraph, filed 9/11/2003, with respect to claim 3 have been fully considered and are persuasive. The examiner agrees with the applicant that Bryan does not teach a single demodulator means for demodulating

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packets of two types. The packets having training sequences where one training sequence is a subsequence of the other.

Applicant's arguments, see pg. 6 second paragraph, filed 9/11/2003, with respect to claim 9 have been fully considered and are persuasive. The examiner agrees with the applicant that the first and second training sequences being orthogonal training sequences is not anticipated by Bryan.

#### ***Conclusion***

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ronald Abelson whose telephone number is (703) 306-5622. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on (703) 308-5463. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-9600.



Ronald Abelson  
Examiner  
Art Unit 2666

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October 29, 2003

Seema S. Rao  
Supervisory Patent Examiner  
AU 2666  
October 29, 2003



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Official fax number: 703-872-9314

A handwritten signature in black ink, appearing to be 'Dangton', written in a cursive style.

DANGTON  
PRIMARY EXAMINER